

FIG 1

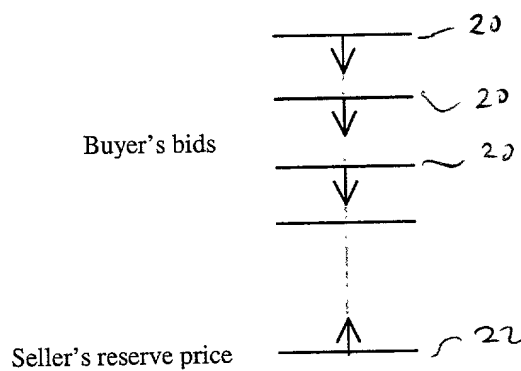


FIG 2

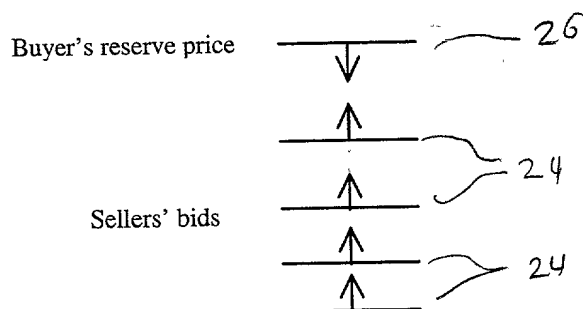


FIG 3

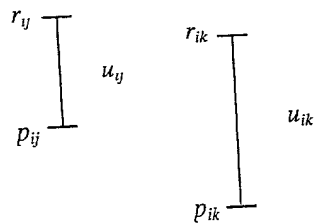


FIG 4

Example 1 Data

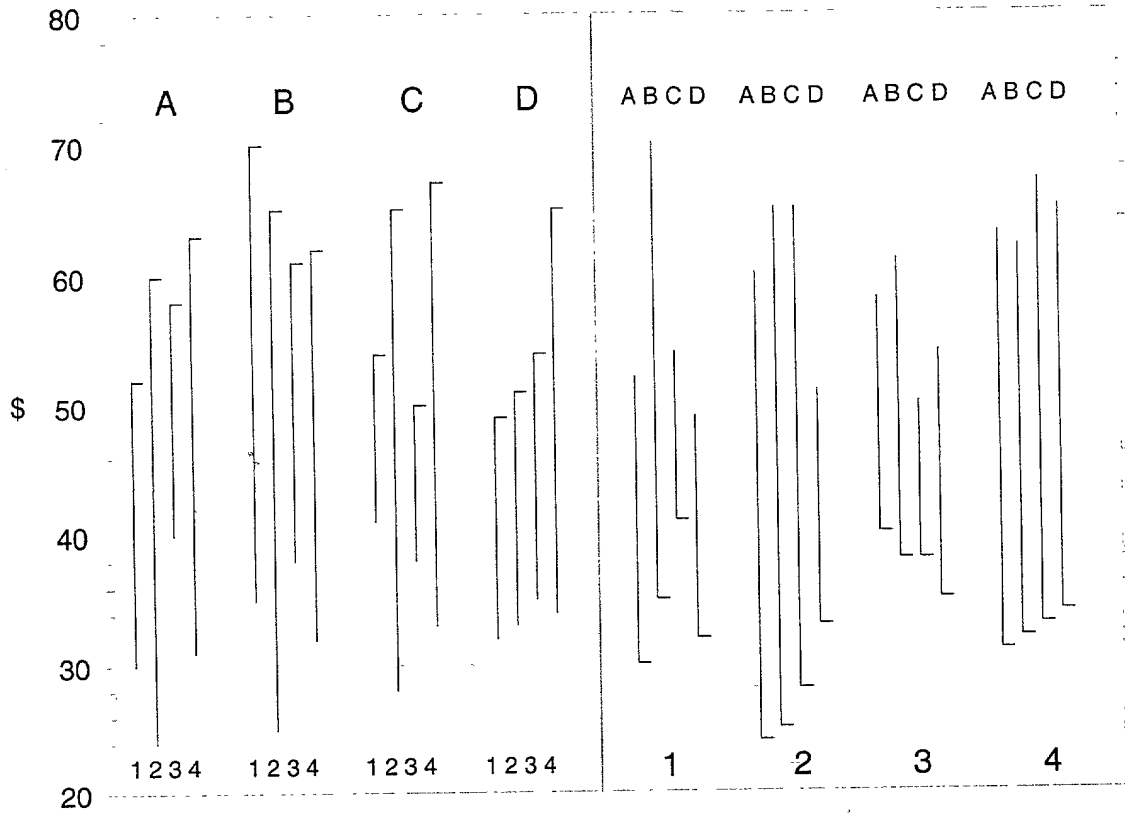


FIG 5

LIMIT PRICES

BUYERS

	1	2	3	4
A	\$52	\$60	\$58	\$63
B	\$70	\$65	\$61	\$62
C	\$54	\$65	\$50	\$67
D	\$49	\$51	\$54	\$65

SELLERS

	A	B	C	D
1	\$36	\$35	\$41	\$31
2	\$24	\$25	\$28	\$33
3	\$40	\$38	\$38	\$35
4	\$31	\$32	\$33	\$34

F166

\Problem name: maxmatch.LP

Maximize

obj: 18 xD2 + 22 xA1 + 17 xD1 + 34 xC4 + 12 xC3 + 37 xC2 + 13 xC1 + 30 xB4
 + 23 xB3 + 40 xB2 + 35 xB1 + 32 xA4 + 31 xD4 + 18 xA3 + 19 xD3 + 36 xA2

Subject To

b_A: xA1 + xA4 + xA3 + xA2 <= 1
 b_B: xB4 + xB3 + xB2 + xB1 <= 1
 b_C: xC4 + xC3 + xC2 + xC1 <= 1
 b_D: xD2 + xD1 + xD4 + xD3 <= 1
 s_1: xA1 + xD1 + xC1 + xB1 <= 1
 s_2: xD2 + xC2 + xB2 + xA2 <= 1
 s_3: xC3 + xB3 + xA3 + xD3 <= 1
 s_4: xC4 + xB4 + xA4 + xD4 <= 1

Bounds

0 <= xD2 <= 1
 0 <= xA1 <= 1
 0 <= xD1 <= 1
 0 <= xC4 <= 1
 0 <= xC3 <= 1
 0 <= xC2 <= 1
 0 <= xC1 <= 1
 0 <= xB4 <= 1
 0 <= xB3 <= 1
 0 <= xB2 <= 1
 0 <= xB1 <= 1
 0 <= xA4 <= 1
 0 <= xD4 <= 1
 0 <= xA3 <= 1
 0 <= xD3 <= 1
 0 <= xA2 <= 1

End

F167

\Problem name: buyeropt.LP

Maximize

obj: uA + uB + uC + uD

Subject To

total: u1 + u2 + u3 + u4 + uA + uB + uC + uD = 124
 A_1: u1 + uA >= 22
 A_2: u2 + uA >= 36
 A_3: u3 + uA >= 18
 A_4: u4 + uA >= 32
 B_1: u1 + uB >= 35
 B_2: u2 + uB >= 40
 B_3: u3 + uB >= 23
 B_4: u4 + uB >= 30
 C_1: u1 + uC >= 13
 C_2: u2 + uC >= 37
 C_3: u3 + uC >= 12
 C_4: u4 + uC >= 34
 D_1: u1 + uD >= 17
 D_2: u2 + uD >= 18
 D_3: u3 + uD >= 19
 D_4: u4 + uD >= 31

End

F168

\Problem name: selleropt.LP

Maximize

obj: $u1 + u2 + u3 + u4$

Subject To

total: $u1 + u2 + u3 + u4 + uA + uB + uC + uD = 124$ A_1: $u1 + uA \geq 22$ A_2: $u2 + uA \geq 36$ A_3: $u3 + uA \geq 18$ A_4: $u4 + uA \geq 32$ B_1: $u1 + uB \geq 35$ B_2: $u2 + uB \geq 40$ B_3: $u3 + uB \geq 23$ B_4: $u4 + uB \geq 30$ C_1: $u1 + uC \geq 13$ C_2: $u2 + uC \geq 37$ C_3: $u3 + uC \geq 12$ C_4: $u4 + uC \geq 34$ D_1: $u1 + uD \geq 17$ D_2: $u2 + uD \geq 18$ D_3: $u3 + uD \geq 19$ D_4: $u4 + uD \geq 31$

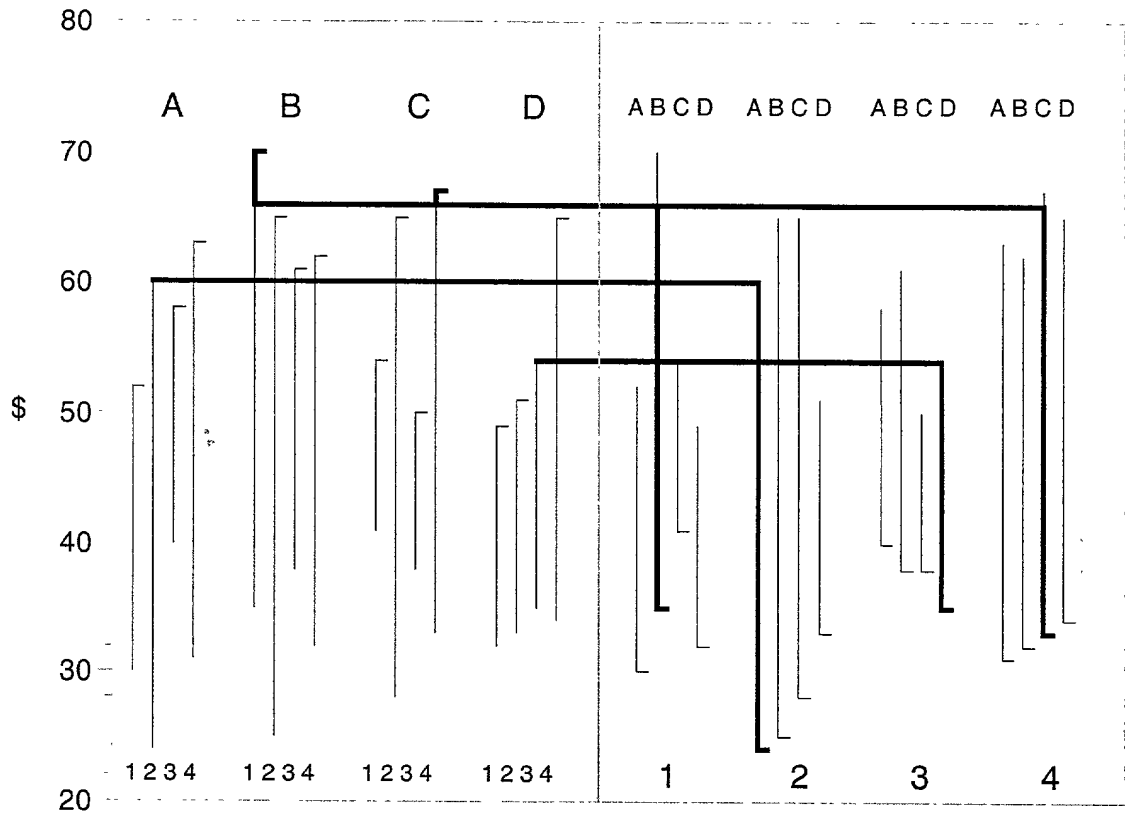
End





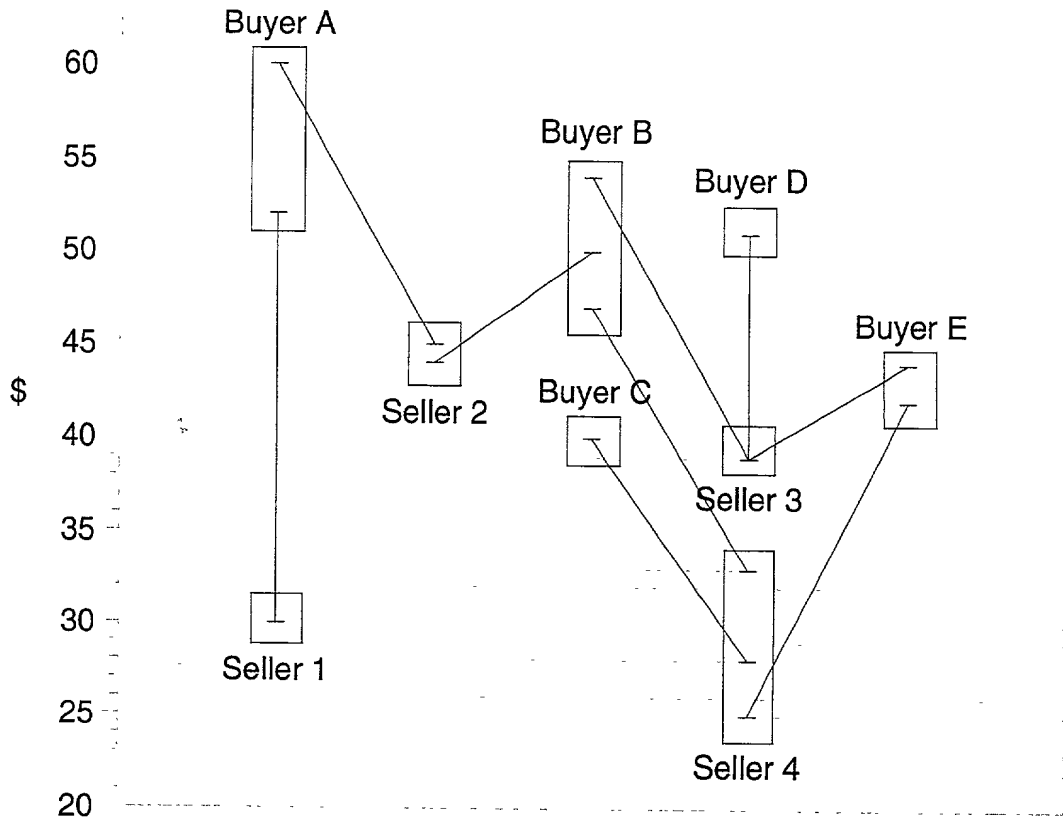
FIG 10

Q-optimal Solution



P1611

Example 2 Data



P1612

\Problem name: maxmatch.LP

```

Maximize
obj: 17 xE4 + 5 xE3 + 12 xD3
    + 12 xC4 + 14 xB4 + 15 xB3
    + 6 xB2 + 15 xA2 + 22 xA1
Subject To
b_A: xA2 + xA1 <= 1
b_B: xB4 + xB3 + xB2 <= 1
b_C: xC4 <= 1
b_D: xD3 <= 1
b_E: xE4 + xE3 <= 1
s_1: xA1 <= 1
s_2: xB2 + xA2 <= 1
s_3: xE3 + xD3 + xB3 <= 1
s_4: xE4 + xC4 + xB4 <= 1
Bounds
0 <= xE4 <= 1
0 <= xE3 <= 1
0 <= xD3 <= 1
0 <= xC4 <= 1
0 <= xB4 <= 1
0 <= xB3 <= 1
0 <= xB2 <= 1
0 <= xA2 <= 1
0 <= xA1 <= 1
End

```

FIG 13

\Problem name: buyeropt.LP

Maximize

obj: uA + uB + uC + uD + uE

Subject To

total: u1 + u2 + u3 + u4 + uA + uB + uC + uD + uE = 57

A_1: u1 + uA >= 22

A_2: u2 + uA >= 15

B_2: u2 + uB >= 6

B_3: u3 + uB >= 15

B_4: u4 + uB >= 14

C_4: u4 + uC >= 12

D_3: u3 + uD >= 12

E_3: u3 + uE >= 5

E_4: u4 + uE >= 17

End

22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS



FIG 14

\Problem name: selleropt.LP

Maximize

obj: u1 + u2 + u3 + u4

Subject To

total: u1 + u2 + u3 + u4 + uA + uB + uC + uD + uE = 57

A_1: u1 + uA >= 22

A_2: u2 + uA >= 15

B_2: u2 + uB >= 6

B_3: u3 + uB >= 15

B_4: u4 + uB >= 14

C_4: u4 + uC >= 12

D_3: u3 + uD >= 12

E_3: u3 + uE >= 5

E_4: u4 + uE >= 17

End

FIG 15

Example 2: Sparse Preferences

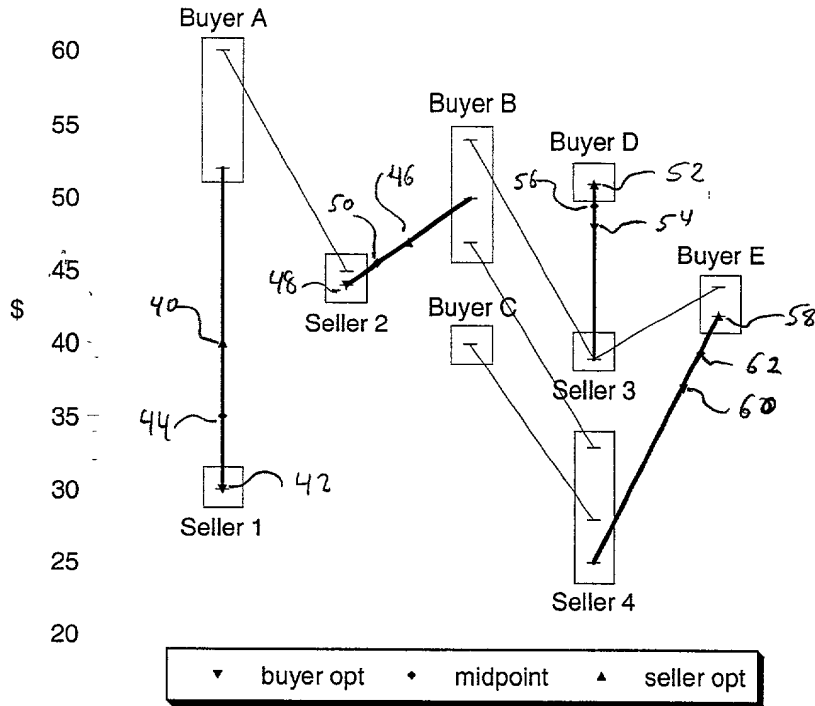


FIG 16

